**Moving Charges**

1. Add enough charges (IN PENCIL!) to make both the balloon and the sweater neutral:

|  |  |
| --- | --- |
| [https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcRQlVpqnTDvOTD96ikN01TB_reRonsL7cx3NR-yy-KeqKnKkqO6](http://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://www.clipartpanda.com/categories/hot-air-balloon-clip-art-black-and-white&ei=anTvVPOyFIrlUoyCg8AN&bvm=bv.86956481,d.cWc&psig=AFQjCNHI9_ircdHF8Xoh8wVRVJXOq87CkA&ust=1425065445686815) | https://lh6.googleusercontent.com/-pctLN4juPIM/AAAAAAAAAAI/AAAAAAAAABc/wg97tWOPIF8/photo.jpg |
|  |  |

# of positive charges: \_\_\_\_\_ # of positive charges: \_\_\_\_\_

# of negative charges: \_\_\_\_\_ # of negative charges: \_\_\_\_\_

Overall charge on balloon: \_\_\_\_\_ Overall charge on sweater: \_\_\_\_\_\_

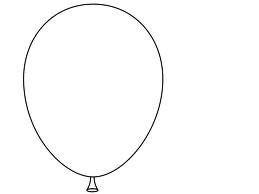
2. If the balloon is rubbed against the sweater, electrons move from the sweater to the balloon. Electrons move, but protons do not. Erase 5 electrons from the sweater & move them to the balloon.

# of positive charges: \_\_\_\_\_ # of positive charges: \_\_\_\_\_

# of negative charges: \_\_\_\_\_ # of negative charges: \_\_\_\_\_

Overall charge on balloon: \_\_\_\_\_ Overall charge on sweater: \_\_\_\_\_\_

3. Draw negative charges on the *charged* balloon, and on the *neutral* wall. If the charged balloon is brought close to the wall (but doesn’t touch it), draw what happens to the negative charges in the wall to “charge” the wall by induction.

[](http://www.google.ca/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://www.clipartpanda.com/categories/hot-air-balloon-clip-art-black-and-white&ei=anTvVPOyFIrlUoyCg8AN&bvm=bv.86956481,d.cWc&psig=AFQjCNHI9_ircdHF8Xoh8wVRVJXOq87CkA&ust=1425065445686815)